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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,789	06/07/2006	Yohei Hasegawa	040405-0378	5929

22428 7590 01/18/2011

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EXAMINER	
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ART UNIT	PAPER NUMBER
2475	

MAIL DATE	DELIVERY MODE
01/18/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,789	HASEGAWA ET AL.	
	Examiner	Art Unit	
	WEI ZHAO	2475	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 October 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-57* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 6, 8, 14-15, 17, 22, 24, 30-31, 33, 38, 40, 46-47 and 50-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorward et al (US 20030018878 A1) in view of Mizuno (US 2003/0158980).

For claim 1, Dorward et al disclose a communication device (Fig. 2 shows server 104) for performing communication according to a predetermined protocol, comprising: a memory (Fig. 2 shows a memory 202); and a processor (Fig. 2 shows a processor 200), wherein the processor is configured to execute instructions stored in the memory to a function of storing (memory 202 stores one or more software programs which are executable by the processor 200 in conjunction with provision of the archival data

storage techniques see [0025] lines 1-10) divide original data into a plurality of blocks for separately transmitting the blocks on a plurality of connections (the server 104, the storage of data blocks is separated from the index used to locate the blocks, as is also apparent from FIG. 1. More particularly, blocks are stored in an append-only log on storage element 116. See [0041] lines1-5 and Fig. 5).

Dorward et al teach all the subject matter with the exception of implementing the method to store information for restoring the plurality of blocks to the original data within a field of a header instead of information to be stored in the field according to the predetermined protocol. Mizuno from the same or similar endeavor teach to store information for restoring the plurality of blocks to the original data within a field of a header instead of information to be stored in the field according to the predetermined protocol ([0066] lines 1-8). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Mizuno in the system of Dorward et al. The method of Dorward et al can be implemented on any type of method to store information for restoring the plurality of blocks to the original data within a field of a header instead of information to be stored in the field according to the predetermined protocol, which is taught by Mizuno, with a motivation to restore by referring to the flag field for the packet transmitted from a plurality of I/O ports.

For claim 6, Dorward et al teach all the subject matter with the exception of implementing the method, wherein the processor is configured to execute instructions stored in the memory to receive a plurality of blocks and, based on the information stored within the field of the header, restore the plurality of blocks to original data.

Mizuno from the same or similar endeavor teach the method, wherein the processor is configured to execute instructions stored in the memory to receive a plurality of blocks and, based on the information stored within the field of the header, restore the plurality of blocks to original data ([0066] lines 1-8). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Mizuno in the system of Dorward et al. The method of Dorward et al can be implemented on any type of method, wherein the processor is configured to execute instructions stored in the memory to receive a plurality of blocks and, based on the information stored within the field of the header, restore the plurality of blocks to original data, which is taught by Mizuno, with a motivation to restore by referring to the flag field for the packet transmitted from a plurality of I/O ports.

For claim 8, Dorward et al. further disclose the communication device (Fig. 2 shows server 104), wherein the information stored within the header is stored in an option field (header 308 of fig. 3 shows fields) option the header (Each data block is prefixed by a header, denoted headers.sub.0, header.sub.l, etc.that describes the contents of the corresponding block. The primary purpose of the block header is to provide integrity checking during normal operation and to assist in data recovery see [0043] lines 4-9).

For claim 14, Dorward et al. further disclose the communication device (Fig. 2 shows server 104), wherein the processor (Fig. 2 shows a processor 200) is further configured to execute instructions to transfer the plurality of blocks (memory 202 stores one or more software programs which are executable by the processor 200 in

conjunction with provision of the archival data storage techniques see [0025] lines 7-10) based on a communication rate (The write performance of the server is therefore limited to the random access performance of the index 114, speedup in throughput can be achieved by striping the index see [0055] lines 8-15).

For claim 15, Dorward et al. further disclose the communication device (Fig. 2 shows server 104), wherein the original data is configured to be restored by referring to the information for restoring the plurality of blocks to the original data within the header (Each data block is prefixed by a header, denoted headers.sub.0, header.sub.I, etc.that describes the contents of the corresponding block. The primary purpose of the block header is to provide integrity checking during normal operation and to assist in data recovery see [0043] lines 4-9).

For claim 17, Dorward et al disclose the method, comprising: using a communication device (Fig. 2 shows server 104) for performing communication according to a predetermined protocol to divide original data into a plurality of blocks for separately transmitting the blocks on a plurality of connections (the server 104, the storage of data blocks is separated from the index used to locate the blocks, as is also apparent from FIG. 1. More particularly, blocks are stored in an append-only log on storage element 116. See [0041] lines1-5 and Fig. 5).

Dorward et al teach all the subject matter with the exception of implementing the method to store information for restoring the plurality of blocks to the original data within a field of a header instead of information to be stored in the field according to the

predetermined protocol. Mizuno from the same or similar endeavor teach to store information for restoring the plurality of blocks to the original data within a field of a header instead of information to be stored in the field according to the predetermined protocol ([0066] lines 1-8). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Mizuno in the system of Dorward et al. The method of Dorward et al can be implemented on any type of method to store information for restoring the plurality of blocks to the original data within a field of a header instead of information to be stored in the field according to the predetermined protocol, which is taught by Mizuno, with a motivation to restore by referring to the flag field for the packet transmitted from a plurality of I/O ports.

For claim 22, Dorward et al teach all the subject matter with the exception of using the communication device to execute instructions stored in the memory to receive a plurality of blocks and, based on information stored within the field of the header, restore the plurality of blocks to original data. Mizuno from the same or similar endeavor teach using the communication device to execute instructions stored in the memory to receive a plurality of blocks and, based on information stored within the field of the header, restore the plurality of blocks to original data ([0066] lines 1-8). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Mizuno in the system of Dorward et al. The method of Dorward et al can be implemented on any type of method using the communication device to execute instructions stored in the memory to receive a plurality of blocks and, based on information stored within the field of the header, restore the plurality of blocks to original data, which is taught by

Mizuno, with a motivation to restore by referring to the flag field for the packet transmitted from a plurality of I/O ports.

For claim 24, Dorward et al. further disclose the method, wherein the information stored within the header is stored in an option field (header 308 of fig. 3 shows fields) option the header (Each data block is prefixed by a header, denoted headers.sub.0, header.sub.I, etc. that describes the contents of the corresponding block. The primary purpose of the block header is to provide integrity checking during normal operation and to assist in data recovery see [0043] lines 4-9).

For claim 30, Dorward et al. further disclose the method, comprising using the communication device to transfer the plurality of blocks based on a communication rate ([0055] lines 8-15).

For claim 31, Dorward et al. further disclose the method, wherein the original data is configured to be restored by referring to the information for restoring the plurality of blocks to the original data within the header ([0043] lines 4-9).

For claim 33, Dorward et al disclose the computer program product embodied on a non-transitory computer-readable storage medium of a communication device (Fig. 2 shows server 104) for performing communication according to a predetermined protocol, comprising the computer code for dividing original data into a plurality of blocks for separately transmitting the blocks on a plurality of connections (the server 104, the storage of data blocks is separated from the index used to locate the blocks, as

is also apparent from FIG. 1. More particularly, blocks are stored in an append-only log on storage element 116. See [0041] lines1-5 and Fig. 5).

Dorward et al teach all the subject matter with the exception of implementing the computer code for storing information for restoring the plurality of blocks to the original data within a field of a header instead of information to be stored in the field according to the predetermined protocol. Mizuno from the same or similar endeavor teach to store information for restoring the plurality of blocks to the original data within a field of a header instead of information to be stored in the field according to the predetermined protocol ([0066] lines 1-8). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Mizuno in the system of Dorward et al. The method of Dorward et al can be implemented on any type of method to store information for restoring the plurality of blocks to the original data within a field of a header instead of information to be stored in the field according to the predetermined protocol, which is taught by Mizuno, with a motivation to restore by referring to the flag field for the packet transmitted from a plurality of I/O ports.

For claim 38, Dorward et al teach all the subject matter with the exception of implementing the method to receive a plurality of blocks and, based on the information stored within the field of the header, to restore the plurality of blocks to original data. Mizuno from the same or similar endeavor teach the method to receive a plurality of blocks and, based on the information stored within the field of the header, to restore the plurality of blocks to original data ([0066] lines 1-8). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Mizuno in the system of

Dorward et al. The method of Dorward et al can be implemented on any type of method, to receive a plurality of blocks and, based on the information stored within the field of the header, to restore the plurality of blocks to original data, which is taught by Mizuno, with a motivation to restore by referring to the flag field for the packet transmitted from a plurality of I/O ports.

For claim 40, Dorward et al. further disclose the comuter program product, wherein the information stored within the header is stored in an option field within the header (Each data block is prefixed by a header, denoted headers.sub.0, header.sub.I, etc.that describes the contents of the corresponding block. The primary purpose of the block header is to provide integrity checking during normal operation and to assist in data recovery see [0043] lines 4-9).

For claim 46, Dorward et al. further disclose the computer program product, comprising code for transferring the plurality of blocks based on a communication rate ([0055] lines 8-15).

For claim 47, Dorward et al. further disclose the computer program product, comprising computer code for restoring the plurality of blocks to the original data by referring the information within the header ([0043] lines 4-9).

For claim 50, Dorward et al disclose a communication device (Fig. 2 shows server 104), wherein the communication device is a proxy server (the server 104 may be distributed across multiple machines. The approach of identifying data by a hash of its contents simplifies such an extension. Such load balancing could even be hidden

from the client application by interposing a proxy server that performs this operation on behalf of the client see [0076] lines 1-10).

For claim 51, Dorward et al disclose a communication device (Fig. 2 shows server 104), wherein the information stored within the header comprises a sequence number and a block size (A given block header 308 includes a "magic" number, the fingerprint of the data block, a user-supplied type identifier, the size of the data block, the identity of the client device or other user that wrote the data block, and the time when the block was first written, the latter being denoted "wtime." See [0045] lines 1-6).

For claim 53, Dorward et al disclose the method, wherein the communication device is a proxy server (the server 104 may be distributed across multiple machines. The approach of identifying data by a hash of its contents simplifies such an extension. Such load balancing could even be hidden from the client application by interposing a proxy server that performs this operation on behalf of the client see [0076] lines 1-10).

For claim 54, Dorward et al disclose the method, wherein the information stored within the header comprises a sequence number and a block size (A given block header 308 includes a "magic" number, the fingerprint of the data block, a user-supplied type identifier, the size of the data block, the identity of the client device or other user that wrote the data block, and the time when the block was first written, the latter being denoted "wtime." See [0045] lines 1-6).

For claim 56, Dorward et al disclose the computer program product, wherein the computer-readable storage medium is a proxy server (the server 104 may be distributed

across multiple machines. The approach of identifying data by a hash of its contents simplifies such an extension. Such load balancing could even be hidden from the client application by interposing a proxy server that performs this operation on behalf of the client see [0076] lines 1-10).

For claim 57, Dorward et al disclose the computer program product, wherein the information stored within the header comprises a sequence number and a block size (A given block header 308 includes a "magic" number, the fingerprint of the data block, a user-supplied type identifier, the size of the data block, the identity of the client device or other user that wrote the data block, and the time when the block was first written, the latter being denoted "wtime." See [0045] lines 1-6).

4. Claims 2-5, 7, 9, 12-13, 18-21, 23, 25, 34-37, 39, 41, 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorward et al (US 20030018878 A1) in view of Mizuno (US 2003/0158980) as applied to claim 1, 17 or 33, and further in view of Firestone (US 6965646 B1).

For claim 2, Dorward et al disclose a communication device (Fig. 2 shows server 104), wherein the information for restoring the plurality of blocks to the original data is stored in an option field (header 308 of fig. 3 shows fields) within the header (Each data block is prefixed by a header, denoted headers.sub.0, header.sub.l, etc.that describes the contents of the corresponding block. The primary purpose of the block header is to

provide integrity checking during normal operation and to assist in data recovery see [0043] lines 4-9).

Dorward et al. and Mizuno teach all the subject matter with the exception of implementing the header of the transport protocol. Firestone from the same or similar endeavor teach (The network packet header includes additional information useful for transmission in the network 106. An input buffer 108 may also be included for temporarily holding the data before streaming onto the network 106. Upon request, the network interface 105 sends the packetized RTP packets onto the network 106 in real-time see coin: 1 line 57-63). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein the header is a header of the transport protocol which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 3, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the processor further configured to execute instructions to examine maximum values of a packet size allowed by a connection related to communication and unify the smallest size among the packet size maximum values as a maximum value of an allowable packet size. Firestone from the same or similar endeavor teach (The packetizer 104 will fragment or aggregate media packets into network packets according to their respective sizes. Media packets are generally described as constant-sized packets containing either video or audio data. Specifically,

if the size of a media packet in media file 102 is larger than the optimal network packet size, the packetizer 104 will fragment the large media packet into two or more successive network packets. On the other hand, if the size of a media packet in media file 102 is smaller than the optimal network packet size, packetizer 104 may aggregate two or more media packets into a single network packet see col: 2 lines 49-59and fig. 1A). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein the processor further configured to execute instructions to examine maximum values of a packet size allowed by a connection related to communication and unify the smallest size among the packet size maximum values as a maximum value of an allowable packet size which is taught by Firestone with a motivation to order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 4, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, wherein the processor is further configured to execute instructions to examine maximum values of a packet size allowed by a connection related to communication and communicate with a packet size equal to or less than the smallest size among the packet size maximum values. Firestone from the same or similar endeavor teach (The packetizer 104 will fragment or aggregate media packets into network packets according to their respective sizes. Media packets are generally described as constant-sized packets containing either video or audio data. Specifically, if the size of a media packet in media file 102 is larger than the optimal

network packet size, the packetizer 104 will fragment the large media packet into two or more successive network packets. On the other hand, if the size of a media packet in media file 102 is smaller than the optimal network packet size, packetizer 104 may aggregate two or more media packets into a single network packet see col: 2 lines 49-59and fig. 1A). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein the processor is further configured to execute instructions to examine maximum values of a packet size allowed by a connection related to communication and communicate with a packet size equal to or less than the smallest size among the packet size maximum values which is taught by Firestone with a motivation to order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 5, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the system, wherein a data length is stored as information for restoring the original data. Firestone from the same or similar endeavor teaches the network packet information inside each GOP header 304 contains the starting byte indexes and lengths of each RTP data packet from the GOP. By knowing the exactlocation of each MPEG file data packet, the streamer 250 may expeditiously copy the data in blocks when repacketizing from the MPEG file to RTP packets (see col: 10 lines 16-22). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method

wherein a data length is stored as information for restoring the original data which is taught by Firestone with a motivation in order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 7, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the system, wherein the header is a header of the transport protocol .Firestone from the same or similar endeavor teach (The network packet header includes additional information useful for transmission in the network 106. An input buffer 108 may also be included for temporarily holding the data before streaming onto the network 106. Upon request, the network interface 105 sends the packetized RTP packets onto the network 106 in real-time see coin: 1 lines 57-63). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein the header is a header of the transport protocol which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 9, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the system, wherein the information stored within the header is stored in a part of a timestamp field of an option field within the header. Firestone from the same or similar endeavor teach (The RTP header contains RTP header information used by the streamer 250 before the data is sent onto the network 204. In one embodiment, the RTP header may include RTP header parameters specified later

upon streaming. Subsequently, upon transmission onto the network 204, these RTP header parameters may be modified by the streamer 250. By way of example, each RTP packet sent onto the network 204 contains a sequence number and an RTP timestamp see coin: 12 lines 4-12) Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method the stored in a part of a timestamp field of an option field within the header which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 12, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the system, wherein the processor is configured to execute instructions stored in the memory to examine Maximum Transfer Unit (MTU) usable by the plurality of connections by a path MTU discovery option and unify MTU of the respective connections to the smallest MTU obtained by the examination. Firestone from the same or similar endeavor teach wherein the processor is configured to execute instructions stored in the memory to examine Maximum Transfer Unit (MTU) (The segmentor 222 will create network packets that have as many bytes as possible without going over the MTU size. To create the network packets, the segmenter 222 reads data out of the audio buffer 211 and video buffer 213. Typically, the system stream 202, its corresponding elementary video stream 210 and the elementary audio stream 208 contain constant sized MPEG packets.see coin: 8 lines 43-50) usable by the plurality of connections by a path MTU discovery option and unify MTU of the respective

connections to the smallest MTU obtained by the examination (if the size of a media packet in media file 102 is smaller than the optimal network packet size, packetizer 104 may aggregate two or more media packets into a single network packet see col: 2 lines 56-59. Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein the processor is configured to execute instructions stored in the memory to examine Maximum Transfer Unit (MTU) usable by the plurality of connections by a path MTU discovery option and unify MTU of the respective connections to the smallest MTU obtained by the examination which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 13, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the system, wherein the processor is configured to execute instructions stored in the memory to refer to a data length to restore the plurality of blocks to the original data. Firestone from the same or similar endeavor teaches (the network packet information inside each GOP header 304 contains the starting byte indexes and lengths of each RTP data packet from the GOP. By knowing the exactlocation of each MPEG file data packet, the streamer 250 may expeditiously copy the data in blocks when repacketizing from the MPEG file to RTP packets see col: 10 lines 16-22). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno .The

method of Dorward et al. and Mizuno can be implemented on any type of method refer to a data length to restore the plurality of blocks to the original data which is taught by Firestone with a motivation in order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 18, Dorward et al disclose the method, wherein the information for restoring the plurality of blocks to the original data is stored in an option field (header 308 of fig. 3 shows fields) within the header (Each data block is prefixed by a header, denoted headers.sub.0, header.sub.l, etc.that describes the contents of the corresponding block. The primary purpose of the block header is to provide integrity checking during normal operation and to assist in data recovery see [0043] lines 4-9).

Dorward et al. and Mizuno teach all the subject matter with the exception of implementing the header of the transport protocol. Firestone from the same or similar endeavor teach (The network packet header includes additional information useful for transmission in the network 106. An input buffer 108 may also be included for temporarily holding the data before streaming onto the network 106. Upon request, the network interface 105 sends the packetized RTP packets onto the network 106 in real-time see coin: 1 line 57-63). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein the header is a header of the transport protocol which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 19, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the communication device to execute instructions to examine maximum values of a packet size allowed by a connection related to communication and unify the smallest size among the packet size maximum values as a maximum value of an allowable packet size. Firestone from the same or similar endeavor teach to execute instructions to examine maximum values of a packet size allowed by a connection related to communication and unify the smallest size among the packet size maximum values as a maximum value of an allowable packet size (The packetizer 104 will fragment or aggregate media packets into network packets according to their respective sizes. Media packets are generally described as constant-sized packets containing either video or audio data. Specifically, if the size of a media packet in media file 102 is larger than the optimal network packet size, the packetizer 104 will fragment the large media packet into two or more successive network packets. On the other hand, if the size of a media packet in media file 102 is smaller than the optimal network packet size, packetizer 104 may aggregate two or more media packets into a single network packet see col: 2 lines 49-59 and fig. 1A). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method to examine maximum values of a packet size allowed by a connection related to communication and unify the smallest size among the packet size maximum values as a maximum value of an allowable packet size,

which is taught by Firestone, with a motivation to order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 20, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method to examine maximum values of a packet size allowed by a connection related to communication and communicate with a packet size equal to or less than the smallest size among the packet size maximum values. Firestone from the same or similar endeavor teach to examine maximum values of a packet size allowed by a connection related to communication and communicate with a packet size equal to or less than the smallest size among the packet size maximum values (The packetizer 104 will fragment or aggregate media packets into network packets according to their respective sizes. Media packets are generally described as constant-sized packets containing either video or audio data. Specifically, if the size of a media packet in media file 102 is larger than the optimal network packet size, the packetizer 104 will fragment the large media packet into two or more successive network packets. On the other hand, if the size of a media packet in media file 102 is smaller than the optimal network packet size, packetizer 104 may aggregate two or more media packets into a single network packet see col: 2 lines 49-59and fig. 1A). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method to examine maximum values of a packet size allowed by a connection related to communication and communicate with a packet size equal to or less than the smallest size among the

packet size maximum values which is taught by Firestone with a motivation to order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 21, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, wherein a data length is stored as information for restoring the original data. Firestone from the same or similar endeavor teaches the network packet information inside each GOP header 304 contains the starting byte indexes and lengths of each RTP data packet from the GOP. By knowing the exactlocation of each MPEG file data packet, the streamer 250 may expeditiously copy the data in blocks when repacketizing from the MPEG file to RTP packets (see col: 10 lines 16-22). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein a data length is stored as information for restoring the original data which is taught by Firestone with a motivation in order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 23, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, wherein the header is a header of the transport protocol .Firestone from the same or similar endeavor teach (The network packet header includes additional information useful for transmission in the network 106. An input buffer 108 may also be included for temporarily holding the data before streaming onto the network 106. Upon request, the network interface 105 sends the packetized RTP packets onto the network 106 in real-time see coin: 1 lines 57-63). Thus it would

have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein the header is a header of the transport protocol which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 25, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, wherein the information stored within the header is stored in a part of a timestamp field of an option field within the header. Firestone from the same or similar endeavor teach (The RTP header contains RTP header information used by the streamer 250 before the data is sent onto the network 204. In one embodiment, the RTP header may include RTP header parameters specified later upon streaming. Subsequently, upon transmission onto the network 204, these RTP header parameters may be modified by the streamer 250. By way of example, each RTP packet sent onto the network 204 contains a sequence number and an RTP timestamp see coin: 12 lines 4-12) Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method the stored in a part of a timestamp field of an option field within the header which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 28, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, to examine Maximum Transfer Unit (MTU) usable by the plurality of connections by a path MTU discovery option and unify MTU of the respective connections to the smallest MTU obtained by the examination. Firestone from the same or similar endeavor teach to examine Maximum Transfer Unit (MTU) (The segmentor 222 will create network packets that have as many bytes as possible without going over the MTU size. To create the network packets, the segmenter 222 reads data out of the audio buffer 211 and video buffer 213. Typically, the system stream 202, its corresponding elementary video stream 210 and the elementary audio stream 208 contain constant sized MPEG packets.see coin: 8 lines 43-50) usable by the plurality of connections by a path MTU discovery option and unify MTU of the respective connections to the smallest MTU obtained by the examination (if the size of a media packet in media file 102 is smaller than the optimal network packet size, packetizer 104 may aggregate two or more media packets into a single network packet see col: 2 lines 56-59. Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method to examine Maximum Transfer Unit (MTU) usable by the plurality of connections by a path MTU discovery option and unify MTU of the respective connections to the smallest MTU obtained by the examination which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 29, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, to refer to a data length to restore the plurality of blocks to the original data. Firestone from the same or similar endeavor teaches (the network packet information inside each GOP header 304 contains the starting byte indexes and lengths of each RTP data packet from the GOP. By knowing the exactlocation of each MPEG file data packet, the streamer 250 may expeditiously copy the data in blocks when repacketizing from the MPEG file to RTP packets see col: 10 lines 16-22). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno .The method of Dorward et al. and Mizuno can be implemented on any type of method refer to a data length to restore the plurality of blocks to the original data which is taught by Firestone with a motivation in order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 34, Dorward et al disclose the computer program producct, wherein the information for restoring the plurality of blocks to the original data is stored in an option field (header 308 of fig. 3 shows fields) within the header (Each data block is prefixed by a header, denoted headers.sub.0, header.sub.l, etc.that describes the contents of the corresponding block. The primary purpose of the block header is to provide integrity checking during normal operation and to assist in data recovery see [0043] lines 4-9).

Dorward et al. and Mizuno teach all the subject matter with the exception of implementing the header of the transport protocol. Firestone from the same or similar endeavor teach (The network packet header includes additional information useful for

transmission in the network 106. An input buffer 108 may also be included for temporarily holding the data before streaming onto the network 106. Upon request, the network interface 105 sends the packetized RTP packets onto the network 106 in real-time see coin: 1 line 57-63). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein the header is a header of the transport protocol which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 35, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing maximum values of a packet size allowed by a connection related to communication and unify the smallest size among the packet size maximum values as a maximum value of an allowable packet size. Firestone from the same or similar endeavor teach (The packetizer 104 will fragment or aggregate media packets into network packets according to their respective sizes. Media packets are generally described as constant-sized packets containing either video or audio data. Specifically, if the size of a media packet in media file 102 is larger than the optimal network packet size, the packetizer 104 will fragment the large media packet into two or more successive network packets. On the other hand, if the size of a media packet in media file 102 is smaller than the optimal network packet size, packetizer 104 may aggregate two or more media packets into a single network packet see col: 2 lines 49-59and fig. 1A). Thus it would have been obvious to one of ordinary skill in the art to implement the

method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method to examine maximum values of a packet size allowed by a connection related to communication and unify the smallest size among the packet size maximum values as a maximum value of an allowable packet size which is taught by Firestone with a motivation to order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 36, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing to examine maximum values of a packet size allowed by a connection related to communication and communicate with a packet size equal to or less than the smallest size among the packet size maximum values. Firestone from the same or similar endeavor teach (The packetizer 104 will fragment or aggregate media packets into network packets according to their respective sizes. Media packets are generally described as constant-sized packets containing either video or audio data. Specifically, if the size of a media packet in media file 102 is larger than the optimal network packet size, the packetizer 104 will fragment the large media packet into two or more successive network packets. On the other hand, if the size of a media packet in media file 102 is smaller than the optimal network packet size, packetizer 104 may aggregate two or more media packets into a single network packet see col: 2 lines 49-59and fig. 1A). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method to examine maximum values of a packet size allowed by a connection related to

communication and communicate with a packet size equal to or less than the smallest size among the packet size maximum values which is taught by Firestone with a motivation to order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 37, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the data length that is stored as information for restoring the original data. Firestone from the same or similar endeavor teaches the network packet information inside each GOP header 304 contains the starting byte indexes and lengths of each RTP data packet from the GOP. By knowing the exactlocation of each MPEG file data packet, the streamer 250 may expeditiously copy the data in blocks when repacketizing from the MPEG file to RTP packets (see col: 10 lines 16-22). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein a data length is stored as information for restoring the original data which is taught by Firestone with a motivation in order to modify and reformat MPEG stream to facilitate RTP packetization.

For claim 39, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the computer program product, wherein the header is a header of the transport protocol .Firestone from the same or similar endeavor teach (The network packet header includes additional information useful for transmission in the network 106. An input buffer 108 may also be included for temporarily holding the data before streaming onto the network 106. Upon request, the network interface 105 sends the packetized RTP packets onto the network 106 in real-time see coin: 1 lines

57-63). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein the header is a header of the transport protocol which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 41, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the computer program product, wherein the information stored within the header is stored in a part of a timestamp field of an option field within the header. Firestone from the same or similar endeavor teach (The RTP header contains RTP header information used by the streamer 250 before the data is sent onto the network 204. In one embodiment, the RTP header may include RTP header parameters specified later upon streaming. Subsequently, upon transmission onto the network 204, these RTP header parameters may be modified by the streamer 250. By way of example, each RTP packet sent onto the network 204 contains a sequence number and an RTP timestamp see coin: 12 lines 4-12) Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method the stored in a part of a timestamp field of an option field within the header which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 44, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the computer program product, wherein the processor is configured to execute instructions stored in the memory to examine Maximum Transfer Unit (MTU) usable by the plurality of connections by a path MTU discovery option and unify MTU of the respective connections to the smallest MTU obtained by the examination. Firestone from the same or similar endeavor teach wherein the processor is configured to execute instructions stored in the memory to examine Maximum Transfer Unit (MTU) (The segmentor 222 will create network packets that have as many bytes as possible without going over the MTU size. To create the network packets, the segmenter 222 reads data out of the audio buffer 211 and video buffer 213. Typically, the system stream 202, its corresponding elementary video stream 210 and the elementary audio stream 208 contain constant sized MPEG packets.see coin: 8 lines 43-50) usable by the plurality of connections by a path MTU discovery option and unify MTU of the respective connections to the smallest MTU obtained by the examination (if the size of a media packet in media file 102 is smaller than the optimal network packet size, packetizer 104 may aggregate two or more media packets into a single network packet see col: 2 lines 56-59. Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein the processor is configured to execute instructions stored in the memory to examine Maximum Transfer Unit (MTU) usable by the plurality of connections by a path MTU discovery option and unify MTU of the respective

connections to the smallest MTU obtained by the examination which is taught by Firestone with a motivation in order to reformatting MPEG data within RTP packets and streams the data onto the network for real-time playback.

For claim 45, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the computer program product, wherein the processor is configured to execute instructions stored in the memory to refer to a data length to restore the plurality of blocks to the original data. Firestone from the same or similar endeavor teaches (the network packet information inside each GOP header 304 contains the starting byte indexes and lengths of each RTP data packet from the GOP. By knowing the exactlocation of each MPEG file data packet, the streamer 250 may expeditiously copy the data in blocks when repacketizing from the MPEG file to RTP packets see col: 10 lines 16-22). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Firestone in the system of Dorward et al. and Mizuno .The method of Dorward et al. and Mizuno can be implemented on any type of method refer to a data length to restore the plurality of blocks to the original data which is taught by Firestone with a motivation in order to modify and reformat MPEG stream to facilitate RTP packetization.

5. Claims 10-11, 26-27 and 42-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorward et al (US 20030018878 A1) in view of Mizuno (US

2003/0158980) as applied to claim 1, 17 or 33, and further in view of Itakura et al (20030118107 A1).

For claim 10, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the device, wherein the header is an IP header. Itakura et al from the same or similar endeavor teach (An IP header is further added to the packet to which the RTP header has been added. FIG. 14 shows details of the IP header in an IP packet. The IP header includes a version, such as IPv4 or IPv6, a header length, a type-of-service (TOS) field which stores priority-level information, a packet length, an identification, a flag indicating control information related to data division (fragment) in an IP layer, a fragment offset indicating the location of divided (fragmented) data, time to live (TTL) indicating the information of time until the data is discarded see [0140] lines 1-10). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Itakura et al in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein stored within the header is an IP header which is taught by Itakura with a motivation to efficiently process data by referring to the priority level information specified in an IP header.

For claim 11, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the system, wherein information for restoring the plurality of blocks to the original data is stored in a fragment field within an IP header. Itakura et al from the same or similar endeavor teach (An IP header is further added to the packet to which the RTP header has been added. FIG. 14 shows details of the IP header in an IP

packet. The IP header includes a version, such as IPv4 or IPv6, a header length, a type-of-service (TOS) field which stores priority-level information, a packet length, an identification, a flag indicating control information related to data division (fragment) in an IP layer, a fragment offset indicating the location of divided (fragmented) data, time to live (TTL)indicating the information of time until the data is discarded see [0140] lines 1-10). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Itakura et al in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein information for restoring the plurality of blocks to the original data is stored in a fragment field within an IP header which is taught by Itakura with a motivation to efficiently process data by referring to the priority level information specified in an IP header.

For claim 26, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, wherein the header is an IP header. Itakura et al from the same or similar endeavor teach (An IP header is further added to the packet to which the RTP header has been added. FIG. 14 shows details of the IP header in an IP packet. The IP header includes a version, such as IPv4 or IPv6, a header length, a type-of-service (TOS) field which stores priority-level information, a packet length, an identification, a flag indicating control information related to data division (fragment) in an IP layer, a fragment offset indicating the location of divided (fragmented) data, time to live (TTL) indicating the information of time until the data is discarded see [0140] lines 1-10). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Itakura et al in the system of Dorward et al. and Mizuno. The method of

Dorward et al. and Mizuno can be implemented on any type of method wherein stored within the header is an IP header which is taught by Itakura with a motivation to efficiently process data by referring to the priority level information specified in an IP header.

For claim 27, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, wherein information for restoring the plurality of blocks to the original data is stored in a fragment field within an IP header. Itakura et al from the same or similar endeavor teach (An IP header is further added to the packet to which the RTP header has been added. FIG. 14 shows details of the IP header in an IP packet. The IP header includes a version, such as IPv4 or IPv6, a header length, a type-of-service (TOS) field which stores priority-level information, a packet length, an identification, a flag indicating control information related to data division (fragment) in an IP layer, a fragment offset indicating the location of divided (fragmented) data, time to live (TTL)indicating the information of time until the data is discarded see [0140] lines 1-10). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Itakura et al in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein information for restoring the plurality of blocks to the original data is stored in a fragment field within an IP header which is taught by Itakura with a motivation to efficiently process data by referring to the priority level information specified in an IP header.

For claim 42, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the product, wherein the header is an IP header. Itakura et al

from the same or similar endeavor teach (An IP header is further added to the packet to which the RTP header has been added. FIG. 14 shows details of the IP header in an IP packet. The IP header includes a version, such as IPv4 or IPv6, a header length, a type-of-service (TOS) field which stores priority-level information, a packet length, an identification, a flag indicating control information related to data division (fragment) in an IP layer, a fragment offset indicating the location of divided (fragmented) data, time to live (TTL) indicating the information of time until the data is discarded see [0140] lines 1-10). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Itakura et al in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein stored within the header is an IP header which is taught by Itakura with a motivation to efficiently process data by referring to the priority level information specified in an IP header.

For claim 43, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the product, wherein information for restoring the plurality of blocks to the original data is stored in a fragment field within an IP header. Itakura et al from the same or similar endeavor teach (An IP header is further added to the packet to which the RTP header has been added. FIG. 14 shows details of the IP header in an IP packet. The IP header includes a version, such as IPv4 or IPv6, a header length, a type-of-service (TOS) field which stores priority-level information, a packet length, an identification, a flag indicating control information related to data division (fragment) in an IP layer, a fragment offset indicating the location of divided (fragmented) data, time

to live (TTL)indicating the information of time until the data is discarded see [0140] lines 1-10). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Itakura et al in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method wherein information for restoring the plurality of blocks to the original data is stored in a fragment field within an IP header which is taught by Itakura with a motivation to efficiently process data by referring to the priority level information specified in an IP header.

6. Claims 16, 32, 48, 49, 52 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorward et al (US 20030018878 A1) in view of Mizuno (US 2003/0158980) as applied to claim 1, 17 or 33, and further in view of Asai (US 20030169759 A1).

For claim 16, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the system, wherein the processor is further configured to execute instructions to reduce a volume of data to be transferred to when a TCP communication rate is low, and increase the volume of data to be transferred to when the TCP communication rate becomes high. Asai from the same or similar endeavor teach (the processing performed by the receiving end communication equipment, the received data is temporarily transferred to the receiving window and then transferred to the buffer designated by the application task. As a result, the number of times of data transfer increases. Due to this, load on the CPU and hardware necessary for the TCP/IP protocol processing increases to thereby disadvantageously increase power

consumption, and it is difficult to secure an empty size in the receiving window of the receiving end communication equipment to thereby disadvantageously decrease data communication rate see[0008]. Thus it would have been obvious to one of ordinary skill in the art to implement the method of Asai in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method the processor is further configured to execute instructions to reduce a volume of data to be transferred to when a TCP communication rate is low, and increase the volume of data to be transferred to when the TCP communication rate becomes high which is taught by Asai with a motivation to increasing a communication processing rate if data is received from a network using TCP/IP.

For claim 32, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, to reduce a volume of data to be transferred to when a TCP communication rate is low, and increase the volume of data to be transferred to when the TCP communication rate becomes high. Asai from the same or similar endeavor teach (the processing performed by the receiving end communication equipment, the received data is temporarily transferred to the receiving window and then transferred to the buffer designated by the application task. As a result, the number of times of data transfer increases. Due to this, load on the CPU and hardware necessary for the TCP/IP protocol processing increases to thereby disadvantageously increase power consumption, and it is difficult to secure an empty size in the receiving window of the receiving end communication equipment to thereby disadvantageously decrease data communication rate see[0008]. Thus it would have been obvious to one

of ordinary skill in the art to implement the method of Asai in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method to reduce a volume of data to be transferred to when a TCP communication rate is low, and increase the volume of data to be transferred to when the TCP communication rate becomes high which is taught by Asai with a motivation to increasing a communication processing rate if data is received from a network using TCP/IP.

For claim 48, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the computer program product, to reduce a volume of data to be transferred to when a TCP communication rate is low, and increase the volume of data to be transferred to when the TCP communication rate becomes high. Asai from the same or similar endeavor teach (the processing performed by the receiving end communication equipment, the received data is temporarily transferred to the receiving window and then transferred to the buffer designated by the application task. As a result, the number of times of data transfer increases. Due to this, load on the CPU and hardware necessary for the TCP/IP protocol processing increases to thereby disadvantageously increase power consumption, and it is difficult to secure an empty size in the receiving window of the receiving end communication equipment to thereby disadvantageously decrease data communication rate see[0008]. Thus it would have been obvious to one of ordinary skill in the art to implement the method of Asai in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method to reduce a volume of data to be transferred to

when a TCP communication rate is low, and increase the volume of data to be transferred to when the TCP communication rate becomes high which is taught by Asai with a motivation to increasing a communication processing rate if data is received from a network using TCP/IP.

For claim 49, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, wherein the communication device receives the plurality of blocks at different communication rates. Asai from the same or similar endeavor teach the method, wherein the communication device receives the plurality of blocks at different communication rates ([0008]). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Asai in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method, wherein the communication device receives the plurality of blocks at different communication rates, which is taught by Asai with a motivation to increasing a communication processing rate if data is received from a network using TCP/IP.

For claim 52, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the method, wherein the communication device receives the plurality of blocks at different communication rates. Asai from the same or similar endeavor teach the method, wherein the communication device receives the plurality of blocks at different communication rates ([0008]). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Asai in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method, wherein the communication device receives the plurality of blocks

at different communication rates, which is taught by Asai with a motivation to increasing a communication processing rate if data is received from a network using TCP/IP.

For claim 55, Dorward et al. and Mizuno. teach all the subject matter with the exception of implementing the computer program product, wherein the communication device receives the plurality of blocks at different communication rates. Asai from the same or similar endeavor teach the method, wherein the communication device receives the plurality of blocks at different communication rates ([0008]). Thus it would have been obvious to one of ordinary skill in the art to implement the method of Asai in the system of Dorward et al. and Mizuno. The method of Dorward et al. and Mizuno can be implemented on any type of method, wherein the communication device receives the plurality of blocks at different communication rates, which is taught by Asai with a motivation to increasing a communication processing rate if data is received from a network using TCP/IP.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

King (US 2002/0188614) is cited to show a software-based methodology for the storage and retrieval of diverse information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WEI ZHAO whose telephone number is (571)270-5672. The examiner can normally be reached on Monday-Thursday, 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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